

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference BL0cp263/79P	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IB 03/ 03397	International filing date (day/month/year) 11/07/2003	(Earliest) Priority Date (day/month/year) 11/07/2002
Applicant  COMMISSARIAT A L'ENERGIE ATOMIQUE		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/03397

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/315 C07K2/00 C07K16/12 C12N15/11 C12N15/63  
C12N5/00 G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, MEDLINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GORDON E ET AL: "The crystal structure of the penicillin-binding protein 2x from Streptococcus pneumoniae and its acyl-enzyme form: Implication in drug resistance." JOURNAL OF MOLECULAR BIOLOGY, vol. 299, no. 2, 2000, pages 477-485, XP002240852 ISSN: 0022-2836 cited in the application	1-22
A	page 478, right-hand column, line 11-17 page 478, right-hand column, line 21-56 ---	
X	WO 98 48041 A (MAX PLANCK GESELLSCHAFT ;HAKENBECK REGINE (DE)) 29 October 1998 (1998-10-29)	9,10,13
A	the whole document --- -/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

7 October 2003

Date of mailing of the international search report

22/10/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Marinoni, J-C

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/B 03/03397

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LAIBLE ET AL: "Nucleotide sequences of the pbpX genes encoding the penicillin-binding proteins 2x from Streptococcus pneumoniae R6 and a cefotaxime-resistant mutant, C506" MOLECULAR MICROBIOLOGY, BLACKWELL SCIENTIFIC, OXFORD, GB, vol. 3, no. 10, 1989, pages 1337-1348, XP002117223 ISSN: 0950-382X cited in the application	9,10,13
A	the whole document ---	
A	PARES S ET AL.: "X-ray structure of Streptococcus pneumoniae PBP2x, a primary penicillin target enzyme" NATURE STRUCTURAL BIOLOGY, vol. 3, no. 3, March 1996 (1996-03), pages 284-289, XP009010741 cited in the application ---	
A	DESSIN ANDREA ET AL: "Crystal structure of PBP2x from a highly penicillin-resistant Streptococcus pneumoniae clinical isolate. A mosaic framework containing 83 mutations." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 276, no. 48, 30 November 2001 (2001-11-30), pages 45106-45112, XP002240853 November 30, 2001 ISSN: 0021-9258 cited in the application ---	
A	MOUZ NICOLAS ET AL: "Mutations in the active site of penicillin-binding protein PBP2x from Streptococcus pneumoniae: Role in the specificity for beta-lactam antibiotics." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 274, no. 27, 2 July 1999 (1999-07-02), pages 19175-19180, XP002240854 ISSN: 0021-9258 cited in the application ---	
	--- -/--	

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/03397

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>MOUZ N ET AL: "Identification of a structural determinant for resistance to beta-lactam antibiotics in Gram-positive bacteria." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 95, no. 23, 10 November 1998 (1998-11-10), pages 13403-13406, XP002240855 Nov. 10, 1998 ISSN: 0027-8424 cited in the application ---</p>	
A	<p>ASAHI Y ET AL: "Diversity of substitutions within or adjacent to conserved amino acid motifs of penicillin-binding protein 2X in cephalosporin-resistant Streptococcus pneumoniae isolates." ANTIMICROBIAL AGENTS AND CHEMOTHERAPY. UNITED STATES MAY 1999, vol. 43, no. 5, May 1999 (1999-05), pages 1252-1255, XP002240856 ISSN: 0066-4804 ---</p>	
A	<p>JHOTI H: "High-throughput structural proteomics using x-rays" TRENDS IN BIOTECHNOLOGY, ELSEVIER PUBLICATIONS, CAMBRIDGE, GB, vol. 19, no. 10, 1 October 2001 (2001-10-01), pages S67-S71, XP004310381 ISSN: 0167-7799 -----</p>	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 03/03397

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9848041	A	29-10-1998	DE 19717346 A1	29-10-1998
			WO 9848041 A2	29-10-1998
			EP 0977894 A1	09-02-2000
			JP 2001520520 T	30-10-2001
			US 2003087229 A1	08-05-2003
<hr/>				